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THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

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# THE TECHNIQUE OF COMBINING INCOMPLETE JUDGMENTS OF THE RELATIVE POSITIONS OF N FACTS MADE BY N JUDGES

INVESTIGATIONS in the mental and social sciences often need to use measurements by relative position or rank or "order of merit." In such cases the series of facts to be ranked may not in entirety be known to any one judge. One judge may be able to form an opinion concerning only facts 1, 2, 3, 4, and 5; another judge may be able to rate only facts 1, 2, 6, 7, 8, and 19; a third judge may be able to rate only facts 6, 7, and 9. The investigator has then the problem of assigning the most probable order of merit to facts 1 . . . *n*, on the basis of a combination of several partial orders; or of assigning a fairly probable order obtainable without undue expense of time.

The technique for handling this problem has not, to the author's knowledge, been seriously considered, though, of course, the principles involved would be obvious to anybody familiar with the general theory of measurement by relative position. Since the problem will be met very often in applied psychology, I present here a fairly satisfactory procedure used in estimating the general intelligence imputed to each of thirty-four college freshman by the combined judgment of eighteen individuals who knew from 14 to 29 of the thirty-four, and rated those whom they knew. We have, that is, as our data, the facts of Table I., the ratings being made in accordance with the following instructions:

"Place a cross at the right of the name in the case of the individuals whom you know, including yourself. Then consider these individuals and mark with a 100 the man who, in your opinion, has the best intellect. Mark with a 1 the man who, in your opinion, has the least intellectual ability. Mark with a 99 the next to the best for intellect, and with a 2 the next to the worst. Continue marking down from the top or up from the bottom until all the individuals that you know are marked. When two individuals seem to be closely alike in intellectual ability, give them each two marks (for example,

if after marking the first two at the top 100 and 99, the next two seem to be closely alike in intellect, mark each of them '98–97'). Grade yourself without over-modesty, as impartially as you can."

For convenience the first step is to get a rough approximation to the true order by inspection, or by computing the median position for each individual, or otherwise. It is obvious, for example, from inspection that individuals 35, 20, 4, 40, and 2 are high-numbered and that individuals 1, 8, and 26 are low-numbered.

In the case in hand the rough approximation left individuals 19 and 33 out of account, since they were graded by only one individual, and could best be treated separately. The resulting order was that of the heading line of Table II.; and in accordance with it the facts of Table I. were rearranged to form Table II.

The next step is to get a nearer approximation by measuring each individual, beginning at the right in comparison with his neighbor to the left in Table II. This is done by finding the percentage of judges (using only those who rated the two individuals in question), who rated the former individual as lower numbered than the latter, and computing the amount of difference represented by this percentage. The latter computation in this case assumed that the variability of the opinions of the judges concerning the ability of an individual was approximately that of the so-called normal surface of frequency. Thus, 26 is ranked as lower-numbered than 34 by 6, as equal by 0, and as higher-numbered by 3. He is, by the assumption, .64 times the Median Deviation (P. E.) below 34, in the judgment of those who know the two. A table of differences corresponding to various divisions of opinion amongst 2, 3, 4, 5, 6, 7, 8, . . . $n$ judges will be found useful. (Table III. is such a table up to 15 judges.) Table IV. gives the result of this series of computations[1]. Where the values are negative, the first rough approximate order evidently needs amendment.

It is amended by comparing the wrongly placed individuals with other individuals near whom they seem to belong until, so far as possible, a place can be found for them such that they are, in every case, so placed as to give + differences or zero differences. In connection with this amendment, it will be useful to compute also the differences from the two or three next neighbors in the new order. For, if an individual is rightly placed, he will not only be below the one placed above him in the order, but also below the two or three next above him. A process of trial and adjustment will be more economical than a rigid procedure in this work. The result in the case in hand is as shown in Table V.

[1] Cases of no division of opinion among the judges, which theoretically correspond to an infinite difference, should be assigned values that are reasonable in view of the number of judges and the character of the facts judged.

## TABLE I

THE RELATIVE POSITIONS, IN GENERAL INTELLECT, ASSIGNED TO CERTAIN INDIVIDUALS OF A TOTAL GROUP OF 34 BY EACH OF 18 JUDGES
Each Individual Judged is Represented by a Column. The Rankings of each Judge Are Represented by a Row.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 17 | 18 | 20 | 21 | 22 | 25 | 26 | 27 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 42 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Judged by 2. | 1 | 98 | ... | 100 | ... | 4 | 96 | 4 | 10 | 93 | 90 | 95 | 5 | ... | 94 | 3 | ... | 8 | ... | ... | 9 | 97 | 6 | ... | ... | ... | ... | 99 | 7 | 92 | 91 | 2 | ... | 89 |
| " 5. | 8 | ... | 97 | 99 | 90 | 96 | ... | 79 | ... | 93 | ... | 83 | 91 | 88 | 98 | 89 | ... | ... | 92 | ... | 80 | 95 | 86 | 87 | 85 | ... | ... | 94 | 84 | ... | ... | 81 | 100 | ... |
| " 6. | 50 | 99 | 91 | 96 | 86 | 97 | ... | ... | 5 | 4 | 87 | ... | 89 | 88 | 90 | 95 | ... | ... | ... | ... | 1 | 100 | 7 | 85 | 2 | ... | ... | 94 | 3 | ... | ... | 93 | 98 | 92 |
| " 7. | 1 | 100 | ... | 98 | ... | 84 | 97 | 82 | 83 | 92 | 91 | 95 | 85 | 81 | 96 | 90 | ... | 86 | 93 | 87 | 80 | 94 | ... | ... | ... | ... | 89 | 99 | 3 | 88 | ... | 2 | ... | ... |
| " 10. | 1 | ... | ... | ... | 97 | 91 | 90 | 89 | 95 | 88 | 87 | 98 | 94 | ... | ... | 92 | ... | ... | ... | 96 | 2 | ... | 93 | ... | ... | ... | 86 | 99 | ... | ... | ... | ... | 100 | ... |
| " 11. | 14 | 99 | 93 | 100 | 88 | 91 | 92 | 1 | 86 | 90 | 89 | 97 | 87 | 13 | 12 | 11 | ... | 5 | 6 | 3 | 2 | ... | 95 | 8 | 94 | ... | 9 | 98 | 4 | ... | ... | 7 | 96 | 10 |
| " 12. | 2 | 100 | ... | 98 | ... | 93 | 96 | 1 | 87 | 89 | 90 | 95 | ... | ... | 97 | 88 | ... | 91 | 86 | ... | 3 | ... | ... | ... | ... | ... | ... | 99 | ... | 94 | 92 | 85 | ... | ... |
| " 14. | 3 | 96 | 95 | 94 | 92 | 90 | 97 | 7 | 6 | 9 | 93 | ... | 8 | 12 | 99 | 92 | ... | ... | 89 | 4 | ... | ... | ... | ... | ... | ... | ... | 98 | 5 | ... | ... | 1 | 100 | ... |
| " 18. | 81 | ... | ... | 96 | 85 | 90 | ... | ... | 88 | 98 | 87 | 97 | 95 | ... | 92 | 94 | ... | 86 | 89 | ... | ... | ... | 93 | ... | 82 | ... | 83 | 100 | ... | ... | ... | 83 | 100 | ... |
| " 20. | 1 | 96 | ... | 99 | ... | ... | ... | ... | ... | 8 | 4 | ... | 5 | 6 | 94 | 2 | 99 | 93 | ... | ... | ... | 95 | ... | 3 | ... | ... | ... | 100 | 7 | ... | ... | 92 | 97 | ... |
| " 21. | 3 | 96 | ... | 98 | ... | ... | 92 | ... | ... | ... | 6 | 94 | 7 | ... | 94 | 4 | 99 | 95 | 8 | ... | 1 | 91 | 2 | ... | 9 | ... | 5 | 100 | ... | ... | 10 | ... | 97 | ... |
| " 27. | 1 | 96 | ... | 99 | 7 | 90 | 92 | 3 | ... | ... | 90 | 89 | 88 | 2 | 97 | 4 | 98 | 95 | 94 | 9 | 12 | ... | 91 | 10 | 6 | ... | 11 | 100 | 6 | ... | 8 | 93 | 5 | ... |
| " 30. | 1 | ... | ... | 90 | ... | 94 | ... | ... | 5 | 95 | ... | ... | ... | ... | ... | 5 | ... | ... | ... | 3 | 2 | 98 | 97 | 4 | 7 | ... | 93 | ... | ... | ... | ... | ... | 100 | ... |
| " 31. | 1 | 96 | 88 | 99 | 87 | 95 | 86 | 2 | 9 | 12 | 3 | 13 | 94 | 4 | 91 | 92 | 98 | 7 | 11 | 8 | 6 | 97 | 93 | 90 | 99 | ... | 5 | 99 | 10 | ... | 93 | 3 | 100 | ... |
| " 32. | 5 | 94 | ... | 99 | ... | 100 | ... | ... | 92 | 88 | 89 | ... | 87 | ... | 90 | 91 | ... | 85 | ... | 2 | 1 | 98 | 97 | 85 | 86 | ... | 93 | 95 | ... | ... | 86 | 3 | 4 | ... |
| " 33. | 1 | 85 | 97 | 96 | ... | 94 | 3 | 5 | 90 | 7 | 8 | ... | 93 | ... | ... | 89 | 98 | 86 | ... | 87 | 99 | 84 | 6 | 95 | 92 | 84 | 4 | 100 | ... | 11 | 88 | 12 | 91 | 2 |
| " 35. | 5 | 100 | ... | ... | 1 | ... | 98 | ... | ... | 93 | ... | 98 | ... | ... | 96 | 4 | ... | 6 | 7 | ... | 3 | ... | 2 | ... | 95 | ... | ... | ... | ... | ... | ... | 97 | ... | 99 | ... |
| " 40. | 2 | 94 | ... | 3 | 6 | ... | ... | ... | ... | 8 | ... | ... | 7 | 4 | 89 | ... | 99 | 92 | 95 | ... | 5 | 94 | 98 | ... | ... | ... | ... | 100 | 1 | ... | 91 | 96 | 97 | ... |

## TABLE II

THE FACTS OF TABLE I. REARRANGED IN AN APPROXIMATE ORDER BY INSPECTION. Each Individual Judged is Represented by a Column. The Ratings of each Judge Are Represented by a Row.

| | 35 | 4 | 2 | 40 | 7 | 20 | 3 | 6 | 17 | 12 | 30 | 27 | 10 | 21 | 31 | 32 | 38 | 5 | 18 | 11 | 33 | 39 | 22 | 14 | 42 | 37 | 9 | 25 | 15 | 36 | 1 | 8 | 34 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Judged by 2. | 99 | 100 | 98 | ... | 96 | ... | ... | 4 | 94 | 95 | 6 | 97 | 93 | 8 | ... | ... | 91 | ... | 3 | 90 | ... | 2 | ... | 5 | 89 | 92 | 10 | ... | ... | 7 | 1 | 4 | ... | 9 |
| " 5. | 94 | 99 | ... | 100 | ... | ... | 97 | 96 | 98 | 83 | 86 | 95 | 93 | ... | 87 | 85 | ... | 90 | 89 | ... | ... | 81 | 92 | 91 | ... | ... | ... | ... | 88 | 84 | 8 | 79 | ... | 80 |
| " 6. | 94 | 96 | 99 | 98 | ... | ... | 91 | 97 | 90 | ... | 7 | 100 | 4 | ... | 85 | 2 | ... | 86 | 95 | 87 | ... | 93 | ... | 89 | 92 | ... | 5 | ... | 88 | 3 | 50 | ... | ... | 1 |
| " 7. | 99 | 98 | 100 | ... | 97 | ... | ... | 84 | 96 | 95 | ... | 94 | 92 | 86 | ... | ... | ... | ... | 90 | 91 | ... | 2 | 93 | 85 | ... | 88 | 83 | 87 | 81 | 3 | 1 | 82 | 89 | 80 |
| " 10. | 99 | ... | ... | 100 | 90 | ... | ... | 91 | ... | 98 | 93 | ... | 88 | ... | ... | ... | ... | 97 | 92 | 87 | ... | ... | ... | 94 | ... | ... | 95 | 96 | ... | ... | 1 | 89 | 86 | 2 |
| " 11. | 98 | 100 | 99 | 96 | 92 | ... | 93 | 91 | 12 | 97 | 95 | ... | 90 | 5 | 8 | 94 | ... | 88 | 11 | 89 | ... | 7 | 6 | 87 | 10 | ... | 86 | 3 | 13 | 4 | 14 | 1 | 9 | 2 |
| " 12. | 99 | 98 | 100 | ... | 96 | ... | ... | 93 | 97 | 95 | ... | ... | 89 | 91 | ... | ... | 92 | ... | 88 | 90 | ... | 85 | 86 | ... | ... | 94 | 87 | ... | ... | ... | 2 | 1 | ... | 3 |
| " 14. | 98 | 94 | 96 | 100 | 97 | ... | 95 | 90 | 99 | ... | ... | ... | 9 | ... | ... | ... | ... | 92 | 92 | 93 | ... | 1 | 89 | 8 | ... | ... | 6 | 4 | 12 | 5 | 3 | 7 | ... | ... |
| " 18. | 100 | 96 | ... | 100 | ... | ... | ... | 90 | 92 | 97 | 93 | ... | 98 | 86 | ... | 82 | ... | 85 | 94 | 87 | ... | 84 | 89 | 95 | ... | ... | 88 | ... | ... | 91 | 81 | ... | 84 | ... |
| " 20. | 100 | 99 | 96 | 97 | ... | 99 | ... | ... | 94 | ... | ... | 95 | 8 | 93 | 3 | ... | ... | ... | 2 | 4 | ... | 92 | ... | 5 | ... | ... | ... | ... | 6 | 7 | 1 | ... | ... | ... |
| " 21. | 100 | 98 | 96 | 97 | 92 | 99 | ... | ... | 94 | 94 | 2 | 91 | ... | 95 | ... | 9 | 10 | ... | 4 | 6 | ... | ... | 8 | 7 | ... | ... | ... | ... | ... | ... | 3 | ... | 5 | 1 |
| " 27. | 100 | 99 | 96 | 5 | 92 | 98 | ... | 90 | 97 | 89 | 91 | ... | ... | 95 | 10 | 6 | 8 | 7 | 4 | 90 | ... | 93 | 94 | 88 | ... | ... | ... | 9 | 2 | 6 | 1 | 3 | 11 | 12 |
| " 30. | ... | 90 | ... | 100 | ... | ... | ... | 94 | ... | ... | 97 | 98 | 95 | ... | 4 | 7 | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | 5 | 3 | ... | ... | 1 | ... | 93 | 2 |
| " 31. | 99 | 99 | 96 | 100 | 86 | 98 | 88 | 95 | 91 | 13 | 93 | 97 | 12 | 7 | 90 | 89 | 93 | 87 | 92 | 3 | ... | 3 | 11 | 94 | ... | ... | 9 | 8 | 4 | 10 | 1 | 2 | 5 | 6 |
| " 32. | 95 | 99 | 94 | 4 | ... | ... | ... | 100 | 90 | ... | 97 | 98 | 88 | 85 | 85 | 96 | 86 | ... | 91 | 89 | ... | 3 | ... | 87 | ... | ... | 92 | 2 | ... | ... | 5 | ... | 93 | 1 |
| " 33. | 100 | 96 | 85 | 91 | 3 | 98 | 97 | 94 | ... | ... | 6 | 84 | 7 | 86 | 95 | 92 | 88 | ... | 89 | 8 | 84 | 12 | ... | 93 | 2 | 11 | 90 | 87 | ... | ... | 1 | 5 | 4 | 99 |
| " 35 | ... | ... | 100 | 99 | 98 | ... | ... | ... | 96 | 98 | 2 | ... | 93 | 6 | ... | 95 | 97 | 1 | 4 | ... | ... | ... | 7 | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | 3 |
| " 40. | 100 | 3 | 94 | 97 | ... | 99 | ... | ... | 89 | ... | 98 | 94 | 8 | 92 | ... | ... | 91 | 6 | ... | ... | ... | 96 | 95 | 7 | ... | ... | ... | ... | 4 | 1 | 2 | ... | ... | 5 |

TABLE III

THE DIFFERENCES IN TERMS OF THE MEDIAN DEVIATION CORRESPONDING TO ANY GIVEN DIVISION OF OPINIONS AMONG 2, 3, 4, 5, 6, . . ., 15 JUDGES

N = No. of judges; D = Nature of the division among the judges; Δ = Corresponding difference in terms of the Median Deviation (P. E.).

| N | D | Δ | N | D | Δ | N | D | Δ |
|---|---|---|---|---|---|---|---|---|
| 2 | 2–0 | ∞ | 8 | 8–0 | ∞ | 12 | 12–0 | ∞ |
| 2 | 1–1 | 0 | 8 | 7–1 | 1.71 | 12 | 11–1 | 2.05 |
| | | | 8 | 6–2 | 1.00 | 12 | 10–2 | 1.43 |
| 3 | 3–0 | ∞ | 8 | 5–3 | .47 | 12 | 9–3 | 1.00 |
| 3 | 2–1 | .64 | 8 | 4–4 | 0 | 12 | 8–4 | .64 |
| | | | | | | 12 | 7–5 | .31 |
| 4 | 4–0 | ∞ | 9 | 9–0 | ∞ | 12 | 6–6 | 0 |
| 4 | 3–1 | 1.00 | 9 | 8–1 | 1.81 | | | |
| 4 | 2–2 | 0 | 9 | 7–2 | 1.13 | 13 | 13–0 | ∞ |
| | | | 9 | 6–3 | .64 | 13 | 12–1 | 2.11 |
| 5 | 5–0 | ∞ | 9 | 5–4 | .21 | 13 | 11–2 | 1.51 |
| 5 | 4–1 | 1.25 | | | | 13 | 10–3 | 1.10 |
| 5 | 3–2 | .38 | 10 | 10–0 | ∞ | 13 | 9–4 | .74 |
| | | | 10 | 9–1 | 1.90 | 13 | 8–5 | .43 |
| 6 | 6–0 | ∞ | 10 | 8–2 | 1.25 | 13 | 7–6 | .14 |
| 6 | 5–1 | 1.43 | 10 | 7–3 | .78 | | | |
| 6 | 4–2 | .64 | 10 | 6–4 | .38 | 14 | 14–0 | ∞ |
| 6 | 3–3 | 0 | 10 | 5–5 | 0 | | 13–1 | 2.17 |
| | | | | | | | 12–2 | 1.58 |
| 7 | 7–0 | ∞ | 11 | 11–0 | ∞ | | 11–3 | 1.17 |
| 7 | 6–1 | 1.59 | 11 | 10–1 | 1.99 | | 10–4 | .84 |
| 7 | 5–2 | .84 | 11 | 9–2 | 1.35 | | 9–5 | .54 |
| 7 | 4–3 | .26 | 11 | 8–3 | .89 | | 8–6 | .26 |
| | | | 11 | 7–4 | .52 | | 7–7 | 0 |
| | | | 11 | 6–5 | .17 | | | |

We may now proceed to correct this amended order by assigning each individual an amount of difference from individual No. 1, using the comparison of him with each of his four neighbors (in the direction of No. 1) in Table V. Thus No. 8 is 1.25 from 1, No. 26 is .64 from 1 by direct comparison, and 2.38 via No. 8, and averages 1.51. No. 36 is .89 from 1 by direct comparison, and 2.09 via 8, and 1.51 via 26, and averages 1.50. No. 15 is theoretically an infinite distance from No. 1 by direct comparison. Call this, in view of the small number of the judges concerned, 2.00. No. 15 is 1.89 from 1 via 8; 1.77 via 26; 2.14 via 36. It therefore is on the average 1.95. No. 25 is 2.84 from 1 via 8; 2.51 via 26; 1.12 (1.50–.38) via 36; and 2.33 via 15. It therefore averages 2.20. The resulting distances of each individual from No. 1 are as given in Table VI.

The use of three indirect measures, rather than one or two or four or five, is arbitrary. The estimate could be made more reliable by weighting each comparison according to the square-root of the number of judges represented by it. The resulting order should not without some consideration be used instead of the order derived from comparison with next neighbors only; for the next-neighbor comparison, though not utilizing the data fully, is simple and unambig-

## TABLE IV

THE DIFFERENCES BETWEEN SUCCESSIVE INDIVIDUALS IN TABLE II., ON THE BASIS OF DIRECT COMPARISONS.
1.00 = THE MEDIAN DEVIATIONS OF THE OPINIONS OF N JUDGES CONCERNING ANY GIVEN INDIVIDUAL

| | 34 | 8 | 1 | 36 | 15 | 25 | 9 | 37 | 42 | 14 | 22 | 39 | 33 | 11 | 18 | 5 | 38 | 32 | 31 | 21 | 10 | 27 | 30 | 12 | 17 | 6 | 3 | 20 | 7 | 40 | 2 | 4 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | .64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | | −.64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | −1.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | .89 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | | | | | .64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | .38 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | 1.00 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | 1.00 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | − ∞ | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | .00 | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | −.64 | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | −1.13 | | | | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | .43 | | | | | | | | | | | | | | | | | | | |
| 33 | (The data are inadequate for measuring the differences of No. 33.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | −.26 | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | 00 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | .64 | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | | .64 | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | .47 | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | −.32 | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | .52 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | ∞ | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | | | | | | −1.81 | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | .64 | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | .19 | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | | −.52 | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | .64 | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | .64 | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | − ∞ | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1.71 | | | |
| 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | −.17 | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | .43 | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | .40 |
| 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

## TABLE V

THE DIFFERENCE BETWEEN NEIGHBORING INDIVIDUALS, ON THE BASIS OF DIRECT COMPARISON. 1.00=THE MEDIAN DEVIATION

| | | 8 | 26 | 36 | 15 | 25 | 34 | 9 | 42 | 14 | 37 | 39 | 32 | 31 | 18 | 5 | 11 | 21 | 22 | 10 | 38 | 30 | 6 | 12 | 7 | 3 | 17 | 27 | 2 | 40 | 4 | 20 | 35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 1 | 1.25 | .64 | .89 | ∞ | 1.13 | 1.90 | .... | .... | .... | .... | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 33 | 8 | .... | 1.13 | .84 | .64 | 1.59 | .64 | .... | .... | .... | .... | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 32 | 26 | .... | .... | .00 | .26 | 1.00 | .64 | .... | .... | .... | .... | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 31 | 36 | .... | .... | .... | .64 | −.38 | .38 | .84 | .... | .... | .... | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 30 | 15 | .... | .... | .... | .... | .38 | 1.00 | .38 | .00 | 1.13 | ∞ | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 29 | 25 | .... | .... | .... | .... | ..... | .47 | 1.00 | .00 | 1.00 | .00 | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 28 | 34 | .... | .... | .... | .... | ..... | .... | .47 | .00 | 1.13 | .00 | ..... | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 27 | 9 | .... | .... | .... | .... | ..... | .... | .... | .00 | .78 | 1.00 | −1.81 | ..... | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 26 | 42 | .... | .... | .... | .... | ..... | .... | .... | .... | .00 | ∞ | .00 | .64 | .... | ..... | .. | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 25 | 14 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .64 | .74 | −.64 | −∞ | ..... | ... | −.14 | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 24 | 37 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | 1.00 | ? | ? | .00 | ? | 1.00 | ..... | .00 | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 23 | 39 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | .47 | .47 | 1.51 | .47 | .43 | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 22 | 32 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .47 | −.17 | .26 | −.47 | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 21 | 31 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | .64 | .38 | .84 | −.32 | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 20 | 18 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .00 | .26 | .00 | .00 | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | | | | | | | | | | | | | | | | | .84 | | | | | | | | | | | | | | | | |
| 19 | 5 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | .64 | .47 | .21 | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 17 | 11 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | .17 | .47 | .31 | .84 | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 16 | 21 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .. | ..... | .... | ..... | ..... | .64 | .52 | .64 | .00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 15 | 22 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | .64 | .64 | .00 | 1.00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 14 | 10 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | .47 | .31 | 1.00 | 1.13 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 13 | 38 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | .23 | 1.43 | 1.43 | .84 | .... | ... | 1.81 | .... | .... | .... | .... | .... | .... |
| 12 | 30 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .00 | .64 | .00 | .38 | ... | .... | .... | .... | .... | .... | .... | .... |
| 11 | 6 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .64 | .64 | .64 | .52 | .47 | .... | .... | .... | .... | .... | .... |
| 10 | 12 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .42 | .64 | .19 | .38 | .... | .... | .... | .... | .... | .... |
| 9 | 7 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | 1.00 | .21 | .38 | 1.90 | 1.71 | .... | ∞ | .... | .... |
| 8 | 3 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .38 | .00 | 1.25 | 1.43 | .64 | ∞ | .... | .... |
| 7 | 17 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .64 | 1.43 | 1.43 | 1.59 | ∞ | ∞ | .... |
| 6 | 27 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .43 | 1.13 | .89 | ∞ | ∞ | 1.00 |
| 5 | 2 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .17 | .43 | ∞ | ∞ | .64 |
| 4 | 40 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | −.14 | 1.43 | ∞ | .15 |
| 3 | 4 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .32 | ∞ | .40 |
| 2 | 20 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ∞ |
| 1 | 35 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .... | ..... | ..... | ... | ... | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

uous in its meaning. Perhaps some simple system of overweighting the next-neighbor comparison would be advisable. On the whole, however, we have in this technique an economical and fairly reliable means of combining partial orderings.

When the number of judges represented in a comparison is large there is less need of making the final correction by indirect comparisons. When the number of judges is small it may be well to compare *viâ* five or six near neighbors.

TABLE VI

DIFFERENCES OF EACH INDIVIDUAL FROM THE LEAST INTELLECTUAL, NO. 1, IN TERMS OF THE MEDIAN DEVIATION OF THE OPINIONS

| Individual | Distance Above No. 1 | Individual | Distance Above No. 1 |
|---|---|---|---|
| 1 | 0 | 21 | 4.02 |
| 8 | 1.25 | 22 | 4.30 |
| 36 | 1.50 | 10 | 4.44 |
| 26 | 1.51 | 30 | 4.54 |
| 15 | 1.95 | 38 | 4.84 |
| 25 | 2.20 | 6 | 5.39 |
| 42 | 2.31 | 7 | 5.61 |
| 34 | 2.41 | 12 | 5.76 |
| 9 | 2.69 | 17 | 6.08 |
| 39 | 2.90 | 3 | 6.24 |
| 32 | 2.94 | 27 | 6.27 |
| 14 | 3.13 | 2 | 7.30 |
| 37 | 3.55 | 4 | 7.48 |
| 5 | 3.76 | 40 | 7.51 |
| 18 | 3.84 | 35 | 8.52 |
| 31 | 3.98 | 20 | 8.58 |
| 11 | 4.00 | | |

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## ETHICS AS SCIENCE AND AS ART

### I

ALMOST any undertaking may be and has been described as a science, just as almost any one may and does call himself a professor.

When I propose to consider ethics as a science it is in the narrowed sense of "ordered knowledge of natural phenomena and of the relations between them." I have in mind also (*a*) the saying of Svante Arrhenius that "science implies measurement," (*b*) the practise of experimental research instituted by Francis Bacon, and (*c*) Galileo's

practise of searching for the "how" rather than the "why" of things.

We need no account of scientific method. All the educated world knows what it is and admires its efficacy. It has had its hard days in the past when its devotees were not only treated as impious, but were even destroyed in various delicate ways. But why consider that that which is "the ordered knowledge of *natural phenomena*" can possibly be applied to ethics? There's the rub! for ethics has, heretofore, been forbidden territory to science.

Now the various natural sciences, such as physics, chemistry, geology, biology, etc., have all had their theological and metaphysical stages before they emerged into the positive stage. Every science is *ipso facto* positivistic and naturalistic. There is, however, a positivistic temper against which philosophers and theologians have justly protested. It is the temper of that science which does not recognize the rock whence it is hewn; for all the sciences have been gradually separated from the more inclusive if less defined discipline known as philosophy. The natural sciences are taught in many places to-day as natural philosophy, and it were well that we should always recognize the significance of this connection.

Physics and chemistry, as the most exact of the natural sciences, and hence the most dogmatic, are quite apt to forget their origin and to overlook the fact that they are based upon unproved assumptions. Their deeper questions are still questions for philosophy. Still, one must acknowledge that, so long as they were under the tutelage of theology or metaphysics, they made little progress; and the same may be said of the more recently emancipated sciences, which, moreover, tend to split up into subordinate sciences. Thus general biology divides into zoology and botany, physiology, psychology, psychiatry, etc., and each of these in turn becomes more productive when it has set up a household of its own. There are problems in each of the sciences which remain philosophic problems—some would say, chiefly because they are unsolved. Be it so. There are many soluble problems in ethics, I believe, and it is to those that I would see men turn their attention to-day.

## II

Now many writers on ethics have spoken of it as a science; but they have not treated it as such. Many have added greatly to our exact knowledge in ethical fields who yet have not submitted the entire subject of ethics to scientific method. Some recent writers have been intensely practical in their applications of ethics and franker on some biologic subjects than any one heretofore, who are yet quite unscientific in their total attitude.

The only writer, whom I know, who has proposed a strictly scientific programme for ethics—if we except Comte, on account of his

general attitude—is, significantly enough, L. Levy-Brühl.[1] In his book "Ethics and the Science of Morals"[2] he proposes a plan of study to which I can give almost unqualified adhesion; though I would supplement it in significant ways. Durkheim[3] is a kindred spirit. It is noticeable that Levy-Brühl and Durkheim, for all their great vogue in Europe and the profound influence of the latter on sociology, both in Europe and in the United States, are practically unmentioned in contemporary ethical literature. In the *International Journal of Ethics,* during the entire period of its existence, I can find but two brief and inadequate reviews of their works which are by men of recognized power, but which present a totally new viewpoint in ethics.

Of course, the work of all the sociologists has contributed enormously to ethical illustrative material; and a deceptive appearance of scientific method is thus often given to ethical writing. But a true science does not assume its principles *a priori;* nor does it hang on, like grim death, to its hypotheses when they have proven absolutely unfruitful.

"Ethics," by Dewey and Tufts, is the most nearly an actual scientific treatment of the subject in its entire history. Its three sections are an introductory sociological section, then the theoretical treatment, and finally what might be called a programme for social reform. But even this work is not *avowedly inductive and naturalistic.* Its object was not to make a distinct contribution to the new science of ethics, though it does indicate the way in which such a science may be approached, and there is nowhere any hostility toward the idea that ethics may be a science in the naturalistic sense.

Westermarck[4] has proposed "to study moral consciousness as a fact." Sutherland[5] has written of the genesis of morality. Professor Sharp[6] has done valuable work in casuistical studies. None of them, I think, has initiated a real science of ethics, though scientific method has been used by all, and all have gathered valuable material which the new science not only may, but must use.[7]

[1] The biographer of Comte.

[2] Translation by Elizabeth Lee. Archibald Constable and Company. London. 1915.

[3] Emile Durkheim, "De la division du travail social." *Cf.* also my article in this JOURNAL, Vol. X., page 337, "The Case Method in the Study and Teaching of Ethics."

[4] Edw. Westermarck, "The Origin and Development of the Moral Ideas."

[5] A. Sutherland, "The Origin and Growth of the Moral Instinct."

[6] F. C. Sharp, "A Study of the Influence of Custom on the Moral Judgment." *Bulletin of the University of Wisconsin,* 1908.

[7] John Stuart Mill has, in Book VI. of his "System of Logic," proposed a science of human nature, which resembles in many ways the pro-

## III

The greatest obstacle in the way of a scientific study of ethics is its usual classification, with logic and esthetics, as a normative science.[8]

Now the course of the centuries has seen the production of not one, but many sciences of ethics on this basis, which is to say, no science at all. If by normative we mean merely *ideal,* then we may ask whether our science does not become at once an art. The standards are somehow already at hand. All that remains is to apply them in the best and most practical way. But if it is a question how men come to have these various standards, these "types of ethical theory," then we have a genetic inquiry to begin with and we may, by classification, formation of hypotheses, experiment, etc., form a true science of ethical theory, as we may have a science of anything whatsoever.

But, I take it, this is not the meaning of those who protest against ethics as a natural science and claim that it is rather normative. Their protest is against the intrusion of the naturalistic method at all. Seeing the absolutely imperative character of the standard when achieved or realized, it is conceived to have a Minerva-like directness and timelessness of source. This is deceptive. Norms are in all essential respects attained in the same fashion as natural laws. The mere fact that the norm says "ought" and the law says "must" does not wholly differentiate them. The natural science method is as applicable to the discovery of the growth of norms as it is to the discovery of laws, though it is true that the individual or group cognizant of these norms has not attained them by an inductive process. It has them, and then it attempts to justify them. It is just my contention that a disinterested inductive study is essential to the discovery of the "how" of their acquisition. One may observe likewise that the "norms" of physics are as imperative to the intelligence as the norm of ethics is to the will.

The name "science" is not trade-marked; and we may speak of Christian science and normative science if we wish; but these are not natural sciences, and neither of them claims to be such. The char-

posals of Levy-Brühl and Durkheim. He reserves for ethics, however, the narrower field of art or practise. His science of ethology "may be called the exact science of human nature." A careful study of this Book VI. will be invaluable in connection with a science of ethics.

[8] Rashdall, "Theories of Good and Evil," Vol. II., page 414. "Logic, esthetic, and ethic are sometimes spoken of as normative sciences, *i. e.,* sciences which set up standards or which deal not simply with what is, but with what ought to be. They determine the principles upon which we distinguish between the true and false, right and wrong, judgments about the true, the beautiful, and the good."

acteristic of a normative science is that its principles are postulated. It makes no difference whether one be an intuitionist, a utilitarian, or an evolutionary moralist, since these, however different in other ways, are alike in their method of acquiring the initial position.[9] They get it *a priori* every time; and it is not surprising that, after the lapse of twenty-five centuries, the different theories are no nearer together than they were at their separate beginnings.

Wundt,[10] recognizing "the universal applicability of the purely descriptive standpoint to all departments of human knowledge" to be unquestionable, says, "we should still take into consideration that the estimate of the value of facts is also itself a fact and a fact which must not be overlooked when it is there to see. A necessary condition of any such estimate is the existence of human free will. By free will we mean here not a metaphysical faculty, but merely the empirically given capacity of choice between various actions." *Faites vos jeux, Messieurs!* Here we are again! I suppose that we shall never rid ourselves entirely of this Old Man of the Sea; but he must be locked up, temporarily at least, if there is ever to be any progress in moral science. More of him, later, when we touch upon "The Freudian Wish" of Professor Holt.

"A normative science or a science of human norms"—what can these words possibly mean? If we have our norms to begin with, there will be nothing left except application of them, and all ethics will become casuistry. But if norms are, as Wundt implies, very much like natural laws, obtained in the last analysis in the same way, one can not possibly have any objection, scientific though his temper may be, to norms as such.

Every man who has studied the historical ethical systems must have felt a sympathy with them all. Each has made some contribution of great worth, and the normative character of ethical standards

[9] E. Durkheim, "De la division du travail social," page 18. "Il est evidemment impossible qu'on puisse jamais trouver la loi qui domine un monde aussi vaste et aussi varié, si l'on ne commence par l'observer dans toute son étendue. Est-ce ainsi que procedent les moralistes? Tout au contraire, ils croient pouvoir s'élever à cette loi supérieure d'un seul bond et sans intermédiare. Ils commencent par raisonner comme si la morale était toute entière a créer, comme s'ils se trouvaient en presence d'une table rase sur laquelle ils peuvent à leur gré édifier leur système, comme s'il s'agissait de trouver, non une loi qui résume et qui explique un système de faits actuellement réalisées, mais le principe d'une législation morale à instituer de toutes pièces. *A ce point de vue il n'y a pas à distinguer entre les écoles. L'argumentation des empiristes n'est ni moins hâtive ni moins sommaire que celle des rationalistes: la maxime de l'utile n'a pas été obtenue plus que les autres à l'aide d'un méthode vraiment inductive.*" (Italics mine.)

[10] W. Wundt, "The Facts of the Moral Life." (Transl.) Page 5. Swan, Sonnenschein, and Company. London. 1897.

is beyond question. The final command is "ought," not "must." That, among other things, differentiates ethics from physics; but man does not respond to the "ought" any more invariably than he does to the "must." When he fails to respond, he suffers remorse—perhaps—but often no other penalty; when he tries to disobey the physical law he is *invariably* injured or destroyed. The physical law holds for all men; the particular ethical law holds only (and as just indicated) for those who accept it; others violate its provisions with impunity except where these coincide with the principles of all other ethical systems. And, in this case, we hold, in agreement with Wundt, that these provisions have the character of a natural law.

It would be rash and impertinent to say that all ethical speculation in the past had been fruitless; but it might be ventured that whatever merit the ethical systems of the past have had is owed rather to the necessary reactions of men in society than to the wisdom of ethical principles intuited by brilliant minds. One does not make a man any better by explaining hedonism to him nor any more virtuous by letting him discover that he is a natural intuitionist. And the curious fact has often been pointed out that, under Stoic and Epicurean, with quite opposite and contradictory theories, there were almost identical practical principles of action; that is to say, an Epicurus or an Aurelius would have advised the young *to do* practically identical things.[11] The reason for this is evident. *Their practical rules do not grow out of their initial principles, but are rather the result of an unnoticed inductive process carried on by all men, which has its fruits in the practical wisdom of action of the most unphilosophic.* It has been suggested to me that, however similar Stoic and Epicurean may be in their practical conduct, there are none the less ethical ideals which lead men to widely different conduct, *e. g.*, St. Augustine and Walt Whitman not only led different lives, but these lives were the legitimate outcome of their ethical philosophy. This is perfectly true. There are some consistent men in the world! And for all Emerson's contempt of it, consistency is a very great and unusual virtue.

I have not meant to imply that all ethical systems were fundamentally the same and would legitimately eventuate in the same conduct. I believe that there is *some* ground common to them all; but this is not the place to explain why I so believe.

"The normative method," if one may use such an expression, is characterized by a great deal of hypostatization. Such terms as "the right," "the good," "justice," "duty," "freedom," are

[11] I do not fail to recognize that stoicism has usually been a social preservative, whereas the deliberate adoption of epicurean principles has usually been followed by degeneration. Offset this by the noble life of Epicurus himself.

of frequent occurrence. Ideal standards of conduct are planned which *might* be possible if all beings (upon whatever metaphysical basis conceived) were themselves perfect to begin with, but which become grotesque when we realize that they are to be carried out by people who have imperfect bodies, faulty heredity, and a reluctant environment. No one but Kant (and a few of his sternest spiritual mates) has ever promulgated the doctrine that one must do "the good" even if all results of so doing were manifestly bad; and Kant had to take refuge in an unrealizable world in order to escape the charge of utter unreason. The doctrine that nothing is good but the Good Will leads straight to antenomianism. Its potency is all destructive.

And, even if men could agree on some one of the many historical ethical theories, how far would this advance us on our difficult way of finding out *how to behave wisely in society?* For this, I take it, is our ultimate object. It is always possible to consider ethics a branch of esthetics, and there are those who limit ethics entirely to its esthetic side. Now it may be that they are right. In any case one would by no means exclude this possibility from his investigation. That would be to become partisan and propagandist at the start. Still there can be no protest against the assumption that ethics deals with the conduct of men in society and that the chief object of it, scientific or dogmatic, is to improve the condition of man, to make society both more rational and more happy. Now every historical ethical theory has contributed something of final value. A society dominated by any one of them would be dignified and worthy: but in the case of intuitional systems, at least, it would certainly be static; and, if evolution and the Heracleitan tradition of constant change have taught us nothing else, they have convinced us that no principles which are not susceptible of constant adaptation to new conditions can possibly be of the maximum value. And so we reject the normative ethical tradition *en bloc* as essentially unfitted to our purpose.

But, aside from the difficulty of choosing between the various normative ethical traditions, and aside from the objection just made that the normative is frequently static, there remains the possibility that there may be *no one* universal basis of ethics. The common prejudice that there must be a universal law of conduct, a position stated most unequivocally by Kant, is probably closely connected with the nearly universal monism which characterizes the general public even more than the philosophical world. Without declaring for monism or pluralism, the *possibility* that our investigation may lead to the latter, must be foreseen; and, in that case, we may be certain that there can not be any universal rules of conduct, but that conduct will

always have to be adapted to the special conditions under which men live. Moreover, there will not only, possibly, be many ethical standards, but none of them will be static. Men hate change almost as much as they love it, and it is a risky business to announce beforehand that there *may be* no absolute abiding-place for the soles of our feet; but the quest of the scientific in ethics is not for the timid.

## IV

One of the few reviews of Durkheim describes his work as nominally sociology, but actually ethics; and it is a common objection to the case method that it is nominally ethics, but actually sociology. There is no need to be disturbed by criticisms so little integrated. "The way to resume is to resume," said a trenchant personality of specie payment, after the Civil War. The way to make ethics a science is to begin the work. The writer of this paper is now preparing a Case Book in Ethics as an imperfect and modest contribution to such a science as he conceives ethics to be. He proposes to publish some preliminary *groups of cases* very shortly in this JOURNAL, upon which he will ask the most searching criticisms; and he will be equally indebted for criticism upon the programme here set forth as well as for any supplementary conceptions for such a science. A certain vagueness and formlessness is inseparable from such beginnings and must be anticipated and forgiven. Nothing could have seemed a more unlikely subject for science than the weather; yet to-day meteorology is greatly respected and growing in usefulness.

This science of ethics will make great use of sociology with its tremendously valuable and significant array of facts about the influence upon conduct of geography, of race, of climate, of economic conditions; with its statistical method so admirably developed. The embryo sciences of criminology and penology, offspring of sociology, will be especially valuable, but none of these is ethics. *The nature of a science is determined, not by its material, but by its purposes.* All sciences must study bodies; there is nothing else for them to study. Science is necessarily materialistic *qua* science. For it the classic rule is Hobbes's "All that exists is body; all that occurs is motion." But this materialism must not be misunderstood. It is not the final philosophic word, it is only a method; and this method can apply only to bodies. Ethics will study the *attained results* of sociology and like sciences in order to know how individual men—not their wills or personalities, but the men as organisms,—act upon one another; and also how various groups—not their principles avowed or tacit, but the groups as groups—act upon one another. We want to find out what the individual Thomas Brown did to John Smith under various conditions, what France did to England, or the United States to

Panama; and this in their total relations, for, as has recently been said of biology, the entire organism must be considered.

We want also to find out what were the judgments of the group to which they belonged, for the purposes of the judgment, through the recognized authorities of that group.[12] *Every group to which any man belongs has already, in some fashion, formulated its definite ethical standards,* whether those of church, state, municipality, or of family, race, or merely a social or political club. Any infraction of these standards is an offense against the group and is punished, as any signal devotion to them is rewarded, in a conspicuous fashion. These judgments, for the state, are formulated in the decisions of courts; and law to-day is not only studied, but taught by the consideration of these particular judgments. At least it is so taught in the United States. Any widespread scientific consideration of ethics, however, must not only study cases as in the United States, but it must also study the judgments made in those countries where the Roman Law is the model rather than the Common Law of England and her dependencies. There is an evident analogy between the method of the Roman Law and the method of intuitional ethics. The case system in ethics must follow, primarily, the case system in law of this country. *Its use of cases,* however, will be for a quite different purpose. It will not be concerned to differentiate between first and second degree murder, between burglary and larceny, between grand and petit larceny, between arson and accidental burning, etc.; *it will not deal with procedure at all;* but, taking the identical facts in each case from the law records, it will seek simply to show exactly what happened, in what the offense consisted, what the authorities said about it, how far they held the person responsible for his actions and exactly what penalty was imposed. Cases should be taken chiefly from records of higher courts in order to avoid the obvious objection that many decisions of lower courts are reversed and are never considered to be *law.*[13] These cases will be grouped by similarity of offense and conditions; and great care will be taken to indicate whether a judgment was made a few centuries ago or at present, whether in England or America, whether in Massachusetts or in Arkansas, whether in a community dominated by strong religious or racial feeling or not, whether during times of war, or threat-

[12] *Cf.* my first article on this subject, "The Case Method in the Study and Teaching of Ethics," this JOURNAL, Vol. X., page 342. There are statements made in that article about aim and method which I have not thought it necessary to repeat here.

[13] *Cf.* my article "The Case Method in Ethics and its Critics," this JOURNAL, Vol. XI., page 20. Any judgment of any court is actually *law* in some sense.

ened war, or in times of peace. From law cases alone much is to be learned of those principles *which actually do govern men in society.*

But a supplementary and more difficult field is to be investigated next; more difficult, not in essence, but because, in it, it is harder to get at the facts. I refer to the judgments of groups whose records are not carefully kept and are not open to the public, such as the actions of corporations, of churches, of educational institutions, of families, of private clubs, and loosely knit social or political groups. These are not compelled by any law to keep accurate records. When some action of theirs is of so serious a nature that they are sued, either by federal authorities or by private persons, their records are often found to be incomplete or to have disappeared altogether. Officers prove to have faulty memories. "I don't know" is a frequent answer to questions; and the suspicion in the minds of court and general public that the man is lying has no immediate cogency because it can not be justified. Groups of all kinds, through their appointed officers, frequently give no reasons at all for their actions, denying the pertinence of an inquiry, or else assigning reasons evidently false, but not provably false.

These are difficulties, but they are not greater than the difficulties which anatomy, physiology, and histology have to face, and these latter have successfully surmounted many of their obstacles. Then, finally, there are the loose, floating, intangibles; like gossip, "public opinion," etc., which are chiefly valuable as clues, since they can not be presented in evidence.

I have elsewhere called such a study as this, *the physics of ethics. The study of cases of conduct, as above outlined, must, in my judgment, form the core of any future scientific ethics. It is the proper beginning and logically precedes other studies contributory to such a science.* Such a study of cases by no means excludes the work of Professor Sharp which, while casuistical in character, is yet always dealing with actual cases referred to the tribunal of the conscience, rather than to any external authority or power. The authorities of groups generally mete out the same rewards and punishments to members, regardless of their ethical standards or ideals. The theory is that this is always done, men are equal before the law; but in fact there are many exceptions. For example, Quakers are nearly always excused from military service or police duty while no such tenderness is shown to Presbyterians or Methodists.

Next in importance comes the study of biological facts—not, necessarily, of biology as such. Suppose that one has some ideal of human conduct, such as Jesus or Socrates or the Magnanimous Man of Aristotle or the Stoic Gentleman, and wishes, not only to conform his own life to it, but also to bring about an approximation to it on

the part of society. He has been brought up under a psychology which assumes a *will*, separable from the body and not subject to the laws of the body. He assumes that such a will can be changed by appeals, by the force of example, by submission, turning the other cheek, etc.; and there is just enough truth in these generalizations to make them plausible.

Now let such a man make a comparative study of the nervous system. He will discover that there can be no action and no thought, since thought is an action too, without a definite reaction of the nervous system to a stimulus which must always be *initiated* from without the organism.[14] Moreover, while all human organisms are more or less alike—in fact, very much alike—nevertheless there are characteristic differences between them; and, given the same stimulus, there will inevitably be different reactions—including thoughts—especially if one or other of these nervous systems be abnormal.[15] He will find that, if there are certain lesions of the brain, or certain diseases of the spinal cord, there are whole ranges of action—and thought—utterly impossible to the being thus afflicted. This is not imagination; the psychopathic wards of our hospitals are teeming with corroborative material. And, so far as I know, there is no remedy for any affliction with such a basis.

The bearing of such facts as these upon a science of ethics, upon questions of *what duty and responsibility are*, is all too plain. But, some one may object, we have always held free from responsibility the very young, idiots, and the insane. There is nothing new in this. No, nothing essentially new, in very truth! It is strange, however, that so few have ever considered its significance. It has been there to see for centuries; but now, the careful observations of responses to particular situations, coupled with minute autopsies of the unfortunate, have made it plain to the meanest intelligence that *there are hundreds of thousands of human beings who can by no possibility ever do what is expected of them by society.* Society must give over expecting such things.

Compare now, with such facts as the above, the equally striking facts uncovered by sociological plus biological studies of the effects of heredity and the possibilities of eugenics. Take the hackneyed comparisons of the Juke family with its terrible fruit of criminals, prostitutes, and degenerates to several generations and the Jonathan Edwards family with its glorious fruit of scholars, publicists, phil-

[14] More exactly, from without the nervous system. The initiated will not need to be told what I mean and I do not want to clog the argument with an explanation here.

[15] I am omitting, for the sake of clearness again, any reference to the influence of the total organism; but this can not be omitted in any complete account of the matter.

anthropists, successful and honored men of affairs, and one sees why some men are praised and exalted and others are abased. The working out of the Mendelian law is one of the most significant things in the history of biology, an apparently inexorable process is indicated. The theory that, by an appeal to the will or by the grace of God, the meanest wretch may turn to a life of righteousness and honor, vanishes in thin air. One's ideal of righteousness may indeed remain what it was before, but will not expectation that either he or any one else can do more than approximate it disappear altogether? And will not his theory of the nature of responsibility have been perceptibly modified, whether he be a utilitarian, a hedonist, or an intuitionist?

The modern comparative study of religion and of religious psychology has brought to light many facts of great importance for a science of ethics. It is quite apparent that, however different men's reactions may be to the same stimulus, yet, given a group training of one kind, it is quite as easy for men to grow up with the religious ideas of Mohammedanism, Buddhism, Christianity or Paganism, to be Presbyterians or Roman Catholics or Jews; and that the consciences of men are dominated by the traditions in which they have been bred. One finds criminals and saints among all these classes. Their consciences justify them according to the religious, ecclesiastical, political, or social traditions of their environment.

This is the proper place for the study of casuistry—as objective as any study, under right conditions. But, again it may be objected, the "normal man" will act always and can act always, according to duty. Who is the "normal man" and how is normality to be determined? Some one (was it Pascal?) once shrewdly remarked, merely from observing mankind, that we were all a bit mad at times. There is more than a little truth in this statement. And the studies in recent years by Professor Theodore Flournoy, of Geneva, and Dr. Morton Prince, of Boston, on multiple personalities, show how abnormality of still another kind may be found even in those whose nervous systems are not overtly diseased or defective.

Enough has been said to indicate the fields in which we may look to find new material for a scientific investigation of the problems of duty and of obligation; for it must never be forgotten that ethics deals primarily with such problems. Ever since man has been rational at all, he has learned not to hold responsible any one who could not help himself. Even the law, with all its rigidity and apparent brutal indifference to capacity, has recognized in principle, and in occasional practise, that some people could not be punished by the state because, in strict fact, they were not *persons*. And now we are learning that the number of those who are, either at times or all the

time, irresponsible, is enormously greater than we had suspected. The discussion of what to do with them belongs under Ethics as an Art, to which we now turn.

V

The ancient controversy over the relation between the theoretical and the practical will not be here revived. It is a dead issue nowadays for all but a very few. All men recognize that the pursuit of "pure science" has brought in its wake untold practical blessings to the world; and most men agree that it is by the pursuit of "pure science" without ulterior commercial motive, that we are most likely to get these blessings. The dispute is settled by the discovery that there is no possible separation of the theoretical and the practical except in a purely formal way. Theory always eventuates in practise, practise becomes dull and inoperative unless constantly vivified by theory; and, moreover, it always proceeds upon some theory.

Scientific ethics is, potentially, applied ethics. Mankind would be very little interested in ethics if such a study were not expected to have very definite practical effect in influencing the conduct of men in society. The Robinson Crusoe-Alexander Selkirk kind of speculation regarding the possible morals of a solitary being who must always remain solitary, is idle and vain. It may be left safely to those who like it.

Now, given the ethical theory of any people, race, state, or church; these have not done so badly in application. The "line upon line, line upon line, precept upon precept, precept upon precept, here a little and there a little" plan is admirably effective—up to a certain point. The force of example, leading to imitation; the power of secret orders, and the influence upon the imagination of initiations, sacraments, and decorations, the importance of taking men while they are young and plastic if one would mold them to any pattern,—these have all been well known, though not scientifically known, to the past ages.

There are many practical devices for influencing men to follow any particular ethics, which grow out of the studies indicated in section four, above. There are—according to the newspapers!—operations upon the skull which turn criminals into honest men. The thing is at least plausible. The mere investigation, by competent school physicians, of the physical condition of children, with especial reference to sight, hearing, and the presence of adenoids, is worth much moral preachment and persuasion; and is more generally effective. The study of the hookworm disease[16] and the campaign for its eradication by the Rockefeller Foundation have moral consequences

[16] For a statement regarding the beneficial effects of biological study, see the presidential address of Dr. C. W. Eliot in *Science*, December 31, 1915.

absolutely incalculable and all for good; if we do not criticize the accepted standards of our generation, probably they are for good on any standard.

But by far the most important agency for bringing about any scheme of ethics already existing and accepted is that which is revealed in Professor Edwin B. Holt's little book, "The Freudian Wish." This book contains a good deal of Freud and more of Holt, while the combination strongly suggests Avenarius. *The mechanism of the will is clearly revealed.* The method by which the will may be trained and modified is brought into the light of day and shown to be in perfect harmony with what has been intuited by the best minds of the past. The old phrase, "As a man thinketh in his heart, so is he," is shown to have neural and muscular basis. The ancient conception of the will as something entirely apart from neural paths, motor tendencies, and bodily "sets," is overthrown. Incidentally, there is much light shed upon the problems of choice; the idea of unmotivated, *i. e.,* uncaused choices, is discredited—not by dialectics, but by a demonstration of the method of all conation. In my judgment, it not only points out how wills may be modified, checked, or suppressed, but it "scraps" that ancient and hoary "freedom of the will" which has been called the "freedom of indifference"—free to do anything at all regardless of the ancestry, character, or present situation of the person supposed to be in possession of it. Professor Holt's book is not a manual of practical ethics; but it contributes notably to our knowledge of how to make such a manual. It can not be summarized here, but should be read for itself.

Much is known to-day of those influences which disturb, impair, or destroy altogether the neural mechanism without which there can be no training. This material has never been brought together in any form to make it available for ethical practise. To bring it together in definite fashion would be a valuable service. I refer to what is known of the influence of alcohol, for example, upon the system—*what is known,* not guessed or projected by the perfervid imaginations of prohibitionists; of the effects of various poisons and drugs; of the influence of various foods upon types of organisms; of the destroying effects of fatigue, especially upon those charged with the public safety, such as railroad signalmen, locomotive engineers, chauffeurs, officers of steamships, and the like. We may add also the effects of undernutrition and of anxiety as well as of over-nutrition and idleness. Then there is a different kind of influence upon which there is not at present much accurately known, which may be indicated, viz., the influence of the economic struggle.

If I have seemed, at times, to cross the line between science and art, it is not to be wondered at; for there is no sharp delimitation to

be made. It would be perfectly proper to consider some of the subjects just mentioned under either.

It is manifest that *the art* of ethics can be practised only when one is sure of his ethics. The relation between ethics as science and as art has been admirably treated by Dewey and Tufts.[17] The practical aids which I have mentioned or indicated will be equally useful for all ethical systems, for they simply help to carry into effect the various principles; and every one of them has been foreshadowed in the proverbial sayings of mankind, although every proverb has, as it were, an *anti-proverb* which needs to be considered.

## VI

In this necessarily brief statement there can be, at best, but a hint of many things. Let me summarize my suggestions for the sake of clarity.

1. Ethics can be and will be treated as a natural science.

2. To insist upon its normative character is to darken counsel and keep it from being studied in any fruitful way. If normative in the absolutist and aprioristic sense, it is impossible to study it as a science at all.

3. The case method, which is in social sciences the analogue of the laboratory method, must be used for the discovery of ethical laws. It is not casuistical, since it does not assume a knowledge of these laws *ab initio*.

4. The *results already attained* by many sciences, notably, biology, anthropology, and sociology, with their subordinate divisions, notably, psychiatry and economics, will be used for the purpose of discovering what man *can do*.

5. The influence of what may be called *social heredity*, through racial, national, and religious traditions, will also be an object of study as well as casuistry properly so called.

6. Since this science is but just conceived, we must remain for a long time on the basis of various traditional or accepted ethical systems. To apply them better and make them more effective, modern knowledge contributes much, notably, an acquaintance with the mechanism of the will through Freud, Holt, and Avenarius.

Such an undertaking as has just been outlined will necessarily meet with neglect or with opposition, criticism of an unfriendly character and misunderstanding. It is, at any rate, an honest attempt to find light in a region where there has been much darkness. It can not hurt any moral imperatives to have them investigated. If they refuse to "show their books" one will indeed suspect them.

At a time such as this, when myriads of men have lost their ethical

[17] *Cf.* Chapter XVI., § 4, "The Place of General Rules."

moorings in the great tidal wave which has swept over the world, it is wise to examine ourselves and our situation in life; to see if there is anything to which we can hold fast in the wreck of worlds and cultures; to ask whether we have any ideals which can be held in the face of all the facts; and finally, to ask how we shall act so as to make those ideals incorporate. For when one has once found his ideals he is a propagandist; and he must fight with every weapon he can seize or forge to make his ideals prevail.

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## REVIEWS AND ABSTRACTS OF LITERATURE

*Pragmatism and French Voluntarism. With especial reference to the Notion of Truth in the Development of French Philosophy from Maine de Biran to Professor Bergson.* L. SUSAN STEBBING. Cambridge University Press. 1914. Pp. ix + 168.

The greater part of this little volume is devoted to a critical comparison of the views of the Bergsonian intuitionists with those of the pragmatists. These two classes of thinkers stand in the forefront of those who "depreciate reason," and Miss Stebbing, writing from a "so-called intellectualistic standpoint," wishes to prove that they are opposed to one another both in their method and in their conclusions, and that "in no sense can the French voluntarists be classed as pragmatists" (p. v). Their divergences can most clearly be discerned in relation to the problem of truth. The pragmatist identifies truth with one of its consequences, while the Bergsonian intuitionist identifies truth with reality. Thus their account of truth is unsatisfactory, because "they both resort to non-intellectual methods of determining truth and of solving metaphysical problems." Miss Stebbing insists that only "by the admission of the non-existential character of truth, and by the complete working out of the demands of intellect, can we obtain knowledge, which is at once complete and rational, hence truly *knowledge*" (p. vi).

The main line of French voluntarism is distinguished by its insistence on personal experience as fundamental and as predominantly active. Miss Stebbing follows this line from Maine de Biran (the real founder of French voluntarism) through Ravaisson and Boutroux, to Bergson and his disciples. A second line is that of neo-criticism. Renouvier, according to Miss Stebbing, is the only French voluntarist who shows any affinity with pragmatism. Thirdly, there is the "*philosophie des idées-forcés!* The pragmatic theory of truth is used throughout as an offset to the various forms of voluntarism.

Miss Stebbing makes her own attitude clear. For her, philosophy is essentially an affair of the intellect, and its aim is to satisfy our "rational nature." Reality may transcend our present powers of logical formulation, but never intellect and logic as such. We need more faith in intellect, not less, and it is the intellectualist's hope "that intellect, in

working out its own perfection, will not fall short of a harmony that shall fully satisfy all our powers of knowing, striving, and loving" (p. 163).

Miss Stebbing's faith in intellect is not conducive to a full understanding of her topic. Throughout she is ultra-analytical, seeking divergences and inconsistencies without having first grasped the spirit and motives of the views she discusses. Her summaries are evidently the result of much thorough research, and salient points are usually correctly stated. But she criticizes theories with which she is so totally unsympathetic that she can not obtain more than a superficial understanding of their meaning.

The concluding chapter deals directly with the relation between intuitionism and the pragmatic theory of truth. It is strange that, but for the barest mention, Miss Stebbing does not refer to the position of Professor Dewey. Many of her criticisims hardly touch his view that truth is the collective name for specific verifications. "Satisfactory" from this standpoint admits of no such vague and various meanings as Miss Stebbing seems to think. Unfortunately, she does not confine herself to her moderate statement of the essence of pragmatism. Intellect is disparaged, she feels, and the ultimate solver of problems is will and its "desire to believe." "The pragmatist, in his extreme anti-intellectualistic ardor, is apt to neglect and scorn the claims of the intellect even to share in the satisfaction that is the mark of truth" (p. 89). The pragmatic criterion of truth is "essentially the outcome of the democratic principle to submit every question to the 'poll of the people' and to cut the knot of every difficulty by the 'counting of heads,' or hearts" (p. 7)!

Miss Stebbing states that her standpoint is diametrically opposed to Bergson's. This is obvious. For purposes of clearness, Bergson often temporarily narrows the meaning of his terms. The clear-cut distinctions that thus arise are taken as final by Miss Stebbing. Hence she accuses Bergson of radical and irreconcilable dualism—except for certain "inconsistent" traces of a monistic tendency. He makes a complete split between the self of everyday life and real personality, between reality distorted for our practical needs and the reality of duration. It seems to her that Bergson banishes freedom and personality much in the same way as Kant, and she actually insists that by freedom Bergson means the "discontinuity of arbitrary choice" and that he upholds the "complete indetermination of reality." The root of her misapprehensions is clear. She does not grasp that, for Bergson, everything is the result of some blending of tendencies. She says that duration is fundamental, but she does not understand that experience has varying degrees of depth and consequent tension of duration.

Miss Stebbing's failure to understand Bergson's view of intuition is not surprising. To any one familiar with Bergson's writings passages will occur in refutation of almost all her statements. For instance, she insists that intuition involves extreme individualism and is essentially incommunicable. Contemplative activity is, for Bergson, incomparably superior to practical activity: the end sought is inexpressible, and the true

philosopher is the silent mystic or, better still, the new-born babe. So little does she understand the interpenetration and mutual working of intellect and intuition that she asserts that there is no criterion to decide beween rival intuitions. Bergson's philosophy leads to "vagueness so extreme as to be compatible with any metaphysical theory" (p. 149) or else to a "pessimistic skepticism that may well seem to justify a plunge into pragmatism by way of reaction" (p. 137).

Miss Stebbing rightly points out that Bergson does not anywhere face the question of the nature of truth, and that it is left for LeRoy and Wilbois to develop explicitly what is implicit in Bergson's view of reality. She finds them to be pragmatic when concerned with science, but anti-pragmatic in their identification of truth with living reality. In other words, Bergsonian intuitionism involves a complete divorce of the useful and the true. Is not this to some extent a matter of words? "Truth" is used in quite a different sense by the intuitionists and the pragmatists. But this does not mean that there is no point of contact between Bergson and pragmatism.

It is noticeable that Miss Stebbing does not include in her bibliography Bergson's introduction to the French translation of James's "Pragmatism." There she would have found a discussion of James's view of "Truth and Reality," in which Bergson gives an indication of his own attitude. Bergson's philosophy includes the positive side of pragmatism, while supplementing its agnostic side by endeavoring to prove that consciousness *can* grasp reality. It is better, perhaps, to use the word "true" in the pragmatic sense. Then that which is verified in action in the more superficial realms of experience is true. But from the Bergsonian standpoint this is not all. Such true hypotheses are so, because to some extent they express an intuitive contact with the deeper inmost life of things, that is, with reality.

UNA BERNARD SAIT.

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*Light from the East: Studies in Japanese Confucianism.* ROBERT CORNELL ARMSTRONG. Toronto: University of Toronto. Published by the Librarian. 1914. Pp. xv + 326.

In this book, Dr. Armstrong endeavors to give an outline of the history of Japanese Confucianism. After a brief sketch of the early introduction of Confucianism into Japan, the book is concerned mainly with the Confucian philosophy of the Tokugawa period—the period of 300 years preceding the modern awakening of Japan. The author, who has devoted many years in Japan to the study of the intellectual development of the Japanese, shows the skill in handling the subject, which comes from personal acquaintance with the subject-matter through wide reading of the native literature. He divides the Confucianism of the Tokugawa era into four schools, the Shushi School, the O-Yomei School, the Classical School, and the Eclectic School, and gives a history of each school by expounding its ideas, illustrating the text with many portraits of representative scholars, in chronological order.

As an outline of the history of Japanese Confucianism, the work is quite successful. But the title of the book suggests something more. "The present work," writes the author in the Preface, "is given to the public in the hope that it will throw light on some of the formative elements of Japanese civilization, and lead to a better understanding of Japanese character and life." Viewing the work from this standpoint, the writer is not so successful in attaining his second object as in accomplishing the first. He should have made clearer how the Japanese spirit began from earlier times to assimilate Confucianism, and how, as a consequence of that *process* of *Japanizing* Confucianism during the Tokugawa era, "it was made far more vigorous and efficacious than in China and elsewhere." If Japanese Confucianism can enlighten the West at all, this light does not consist in *what* it contains, but in *how* it came to be what it is. For, as to the content, there is nothing in Japanese Confucianism which is not found in China or in Europe and America; but, as to the process of *Japanization*, it is peculiar to Japan and worthy of investigation. It is really an unfortunate thing that the author of the book conceives that "the light of the East" consists in the matter of Confucianism rather than in that method of development which makes it Japanese. So his conclusion is that "a sympathetic investigation of things Eastern will convince even the most skeptical that 'East is West' and always has been so" (p. 306). "East is West" may be a discovery, but not necessarily the light from the East. In fact, the book is concerned with the former, and not with the latter. "It is my hope," says the author in the preface, "that these studies . . . may lead others to the conviction that East and West are fundamentally one."

Such sweeping statements and criticisms as I made above, can, I think, hardly do full justice to the book, which was written by one who is not a native Japanese. As to the chief attractions of the work, such as a command of language and power of imagery I was, I confess, charmed as I read it.

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## JOURNALS AND NEW BOOKS

REVUE DE METAPHYSIQUE ET DE MORALE. November, 1915. *La Philosophie et la Litterature classiques de l'Allemagne et les Doctrines pangermanistes* (pp. 711–793): V. BASCH. – The boasted continuity of German thought since the eighteenth century is vain and Germany is betraying the ideal of her philosophers and showing herself unworthy of the heritage classicism has left her. *Sur la Mémoire affective* (pp. 794–813): L. WEBER. – An attempt to show the fact of genuine affective memory as distinguished from affective states aroused by memories of facts. *La signification historique de la "Géometrie" de Descartes* (pp. 814–827): P. BOUTROUX. – A study of the nature of Descartes's discovery and its bearing upon the type of process found in the history of science. *Études critiques. Les formes élémentaires de la vie religieuse:*

H. HÖFFDING. *Questions pratiques. La Force et le Droit:* TH. RUYSSEN. *Table de matières. Supplément.*

AMERICAN JOURNAL OF PSYCHOLOGY. January, 1916. *Duration and the Temporal Judgment* (pp. 1–64): JOSEPHINE NASH CURTIS. – The experience of duration as progression is a primary sense attribute, while the judgment of the length of time depends on secondary factors. *On the Psychomotor Mechanisms of Typewriting* (pp. 65–70): FREDERIC LYMAN WELLS. – The experimental conditions increased speed and errors. Many common mistakes are shown. The two subjects were most efficient towards noon. *Some Developmental Psychology in Lower Animals and in Man and its Contribution to Certain Theories of Adult Mental Tests* (pp. 71–86): WALTER B. SWIFT. – The life of a normal human being has four age periods in which certain mental centers are dominant. The "sense period," "period of affection," "period of will," and the "period of intellect" should have exhaustive tabulations of tests that correlate with the respective centers. *Factors which influence the Arousal of the Primary Visual Memory Image* (pp. 87–118): HAROLD E. BURTT. – Complexity of contour, increase in size, increase in exposure, interest, and motor reinforcement facilitate the arousal of visual images. Great individual variations were found. *A Study in Correlation of Normal Complexes by Means of the Association Method* (pp. 119–151): LUCILE DOOLEY. – The associations showed complexes that were common for the different observers. *Bibliography. Book Notes.*

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## NOTES AND NEWS

THE Section of Anthropology and Psychology of the New York Academy of Sciences met in conjunction with the American Ethnological Society at the American Museum of Natural History on March 27. The following papers were read: "Notes on the Social Organization of Melanesia," Dr. A. A. Goldenweiser; "Tepecano, A Piman Language of Western Mexico," Dr. J. Alden Mason.

DR. W. A. KNIGHT, emeritus professor of moral philosophy in the University of St. Andrews, has died at the age of eighty-one years. Professor Knight was the author of many literary works, including "Studies in Philosophy and Literature," "Essays in Philosophy, Old and New," and "Varia, being Studies on Problems of Philosophy and Ethics."

THE Division of Philosophy, Psychology, and Anthropology, of Columbia University, has arranged a series of conferences for former students of the Division on April 18 and 19 at the University. There will be three sections devoted to philosophy, two to psychology, and two general sessions.

ON the occasion of the initiation ceremonies of the Yale Chapter of the Sigma Xi, Professor J. McKeen Cattell, of Columbia University, gave the address, his subject being "Scientific Research as a Profession."

PROFESSOR RAYMOND DODGE, of Wesleyan University, is giving a series of lectures at Columbia University on "Problems and Methods in Dynamic Psychology."

AT its own request, the department of philosophy at Smith College will hereafter be officially designated the department of philosophy and psychology.

DR. GEORGE SARTON, who is now lecturing in the United States, has been awarded the Prix Binoux by the Paris Academy of Sciences.

PROFESSOR JOSIAH ROYCE, of Harvard University, recently delivered an address in Boston on "The Duties of Americans in the Present War."

DR. NORMAN KEMP SMITH, professor of philosophy in Princeton University, recently sailed for England to join the Allies.

DR. GRACE A. DELAGUNA, of Bryn Mawr College, has been advanced to the grade of associate professor of philosophy.

THE informal meeting of experimental psychologists will be held at Princeton University, April 20–22.

PROFESSOR H. A. RUGER, of Teachers College, has been granted a semester's leave of absence